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Forest Service

Intermountain Region

March 2014

Lost Creek–Boulder Creek Landscape Restoration Project

FINAL ENVIRONMENTAL IMPACT STATEMENT - SUMMARY

Payette National Forest

Cover Photo: Lost Creek Falls, by Leigh Bailey.

Final Environmental Impact Statement for the Lost Creek–Boulder Creek Landscape Restoration Project

USDA Forest Service, Intermountain Region

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Abstract

The Forest Service is analyzing proposed landscape restoration treatment activities in the 80,000 acre Lost Creek–Boulder Creek Landscape Restoration Project area on the New Meadows Ranger District of the Payette National Forest. The purpose of the proposed action is as follows:

1) Move vegetation toward the desired conditions defined in the Forest Plan and consistent with the science in the Forest's draft Wildlife Conservation Strategy
2) Move all subwatersheds within the project area toward the desired condition for soil, water, riparian, and aquatic resources and improve the Boulder Creek subwatershed from the "Impaired" category to the "Functioning at Risk" category as described in the Watershed Condition Framework
3) Manage recreation use in Boulder Creek and in the vicinity of Lost Valley Reservoir with an emphasis on providing sanitation facilities, identifying and hardening dispersed recreation areas, and developing new trail opportunities.
4) Contribute to the economic vitality of the communities adjacent to the Payette National Forest.

The preferred alternative is Alternative B. This alternative proposes non-commercial and commercial thinning, prescribed burning, watershed improvements such as road decommissioning and fish passage improvements, and recreation improvements including Off Highway Vehicle (OHV) trails and dispersed camping improvements. Alternative B responds to the purpose and need as stated above, and incorporates the recommendations of the Payette Forest Coalition and other concerns expressed in comment letters and public meetings. The Responsible Official, Forest Supervisor Keith Lannom, has issued a draft Record of Decision (ROD) per 36 CFR 218 Subpart B for this project. Copies of the FEIS (hard copy or electronic), the preliminary draft ROD, and additional information regarding this proposed project can be obtained from: Holly Hutchinson, 3674 Highway 95, New Meadows, ID 83654, 208-347-0325, hollyahutchinson@fs.fed.us.

Objections will be accepted only from those who have previously submitted specific written comments regarding the proposed project either during scoping or other designated opportunity for public comment in accordance with § 218.5(a). Issues raised in objections must be based on previously submitted timely, specific written comments regarding the proposed project unless based on new information arising after designated opportunities. Individual members of organizations must have submitted their own comments to meet the requirements of eligibility as an individual, objections received on behalf of an organization are considered as those of the organization only. If an objection is submitted on behalf of a number of individuals or organizations, each individual or organization listed must meet the eligibility requirement of having previously submitted comments on the project (§ 218.7). Names and addresses of objectors will become part of the public record.

Incorporation of documents by reference in the objection is permitted only as provided for at § 218.8(b). Minimum content requirements of an objection are identified in § 218.8(d) include:

• Objector's name and address with a telephone number if available; with signature or other verification of authorship supplied upon request;

• Identification of the lead objector when multiple names are listed, along with verification upon request;

• Name of project, name and title of the responsible official, national forest/ranger district of project, and

• Sufficient narrative description of those aspects of the proposed project objected to, specific issues related to the project, how environmental law, regulation, or policy would be violated, and suggested remedies which would resolve the objection.

• Statement demonstrating the connection between prior specific written comments on this project and the content of the objection, unless the objection issue arose after the designated opportunity for comment.

The Reviewing Officer is the Intermountain Region Regional Forester, Nora Rasure. Written objections, including any attachments, must be filed (regular mail, fax, email, hand-delivery, or express delivery) with the Reviewing Officer at: Objection Reviewing Officer, Intermountain Region USFS, 324 25th Street, Ogden, Utah 84401; or fax to 801-625-5277; or by email to: objections-intermtn-regional-office@fs.fed.us within 45 days following the publication date of the legal notice in *The Idaho Statesman*. The office business hours for those submitting hand-delivered objections are: 8:00 am to 4:30 pm Monday through Friday, excluding holidays. Electronic objections must be submitted in a format such as an email message, pdf, plain text (.txt), rich text format (.rtf), and Word (.doc or .docx) to objections-intermtn-regionaloffice@ fs.fed.us. It is the responsibility of Objectors to ensure their objection is received in a timely manner (§ 218.9). The publication date of the legal notice in *The Idaho Statesman* is the exclusive means for calculating the time to file an objection to this project. Those wishing to object to this proposed project should not rely upon dates or timeframe information provided by any other source.

INTRODUCTION

This Final Environmental Impact Statement (FEIS) documents the analysis and discloses the potential temporary, short and long-term, direct, indirect, cumulative, irretrievable and irreversible environmental effects of the proposed action and alternatives for the Lost Creek-Boulder Creek Landscape Restoration Project (Lost Creek-Boulder Creek Project), on the New Meadows Ranger District of the Payette National Forest, in Adams County, Idaho. The Lost-Creek Boulder Creek Project was initiated in 2012 by an interdisciplinary (ID) team of resource specialists (see Chapter 4). The ID team analyzed conditions in the Lost Creek-Boulder Creek Project area and developed the proposed action based on that assessment. Proposed restoration activities include commercial and non-commercial vegetation treatments, prescribed burning, road closure and decommissioning, fish passage barrier improvements, and recreation improvements. These actions are described in detail of Chapter 2 of the FEIS.

PROPOSED ACTION

Proposed landscape restoration treatments activities that would occur under this project include:

- Vegetation treatments on approximately 40,000 acres, including commercial (22,000 acres) and non-commercial (18,000 acres) treatments. Associated actions include road maintenance and temporary road construction.
- Prescribed fire on approximately 45,000 acres.
- Watershed improvements including new long term road closures, road decommissioning, and 40 fish passage barrier improvements.
- Recreation improvements, including new trail developments, rerouting of existing trails, installing trail signs and information kiosks, improving and constructing trailhead parking, decommissioning outhouses and installing vault toilets, improving dispersed camping sites by designating sites, improving road access into sites, adding fire rings, and graveling campsites and campground access roads.

PURPOSE AND NEED FOR ACTION

The **purpose** of the Lost Creek-Boulder Creek Restoration Project is to:

1) Move vegetation toward the desired conditions defined in the Forest Plan and consistent with the science in the Forest's draft Wildlife Conservation Strategy (WCS DEIS), with an emphasis on:

a) Improving habitat for specific wildlife species of concern such as the ESA-listed northern Idaho ground squirrel and species dependent on dry coniferous forests (for example white-headed woodpecker), while maintaining habitat for other sensitive and listed species;

b) Maintaining and promoting large tree forest structure, early seral species composition (for example aspen, western larch, ponderosa pine, and Douglas-fir) and forest resiliency;

c) Reducing the risk of uncharacteristic and undesirable wildland fire, with an emphasis on restoring and maintaining desirable plant community attributes including fuel levels, fire regimes, and other ecological processes.

2) Move all subwatersheds within the project area toward the desired condition for soil, water, riparian, and aquatic resources and improve the Boulder Creek subwatershed from the Class-3 category to the Class-2 category as described in the Watershed Condition Framework (WCF) with an emphasis on:

a) Restoring habitat connectivity, especially in streams occupied by Endangered Species Act (ESA) listed fishes (Chinook salmon, steelhead and bull trout) and in their respective Critical Habitat;

b) Reducing road-related accelerated sediment and other road related impacts.

3) Manage recreation use in Boulder Creek and in the vicinity of Lost Creek with an emphasis on providing sanitation facilities, identifying and hardening dispersed recreation areas, and developing new trail opportunities.

4) Contribute to the economic vitality of the communities adjacent to the Payette National Forest.

The **need** for the project is based on the difference between the existing and desired conditions. These differences include:

1) Less large tree size class than desired in drier forest types, and higher canopy cover;

2) Less early seral species (*i.e.* aspen, ponderosa pine and western larch);

3) Less fire resilient species than desired;

4) Increase in ground and surface fuels;

5) Less than desired watershed function and integrity.

The desired conditions for this project are based upon the Forest Plan, the Watershed Condition Framework (USDA Forest Service 2011) and science in the draft Wildlife Conservation Strategy.

PROJECT OBJECTIVES

Project objectives are elements of the purpose and need that the project is designed to address. The ID team developed quantifiable measurements for each objective.

Forested Vegetation

Objective 1: *Move vegetation toward the desired conditions defined in the Forest Plan, with an emphasis on promoting large tree forest structure, early seral species composition and forest resiliency.*

Measurements:

The following measurements will be evaluated post-treatment.

- Tree Size Class
    - Acres treated to promote or maintain the large tree size class.
    - Distribution of tree size classes.
- Canopy Cover

- Percentage of area (acres) in each canopy cover class within the large tree size class.

- Species Composition
  - Acres treated to maintain and promote desired species composition.

- Spatial Patterns
  - Percent departure from reference conditions per Potential Vegetation Group.

Fire and Fuels

Objective 2: *Restore and maintain desirable fuel levels, fire regimes, and ecological processes.*

Measurement:

- Acres moved towards historic fire regimes.

Soil, Water, Riparian, and Aquatic (SWRA) Resources

Objective 3: *Move all subwatersheds within the project area toward the desired condition for SWRA resources and improve the Boulder Creek subwatershed from the Class-3 category to the Class-2 category as described in the WCF with an emphasis on:*

1. *Restoring fish habitat connectivity, especially in streams occupied by ESA listed fishes and in critical habitat (CH).*
2. *Reducing road-related accelerated sediment and other road related impacts*

Measurements:

- The number of crossings removed or replaced to specifically improve fish passage.
- Road density/location by subwatershed.
- Stream miles improved-includes miles of fish habitat re-connected and miles of stream enhanced through road decommissioning and other road treatments.

Wildlife

Objective 4*: Improve habitat*[1] *for ESA-listed northern Idaho ground squirrel (NIDGS) and Family 1 wildlife species, as represented by the white-headed woodpecker, a Region 4 Sensitive Species (USDA Forest Service 2011) and Forest Management Indicator Species (MIS), by restoring forest conditions that contribute to source habitat for these species. Forested stands providing these source habitats should be restored to conditions within the Historical Range of Variability (HRV).*

[1] NIDGS source habitat is described in Appendix B - Background and Direction for Northern Idaho Ground Squirrel Treatments.

Measurements:

- Quantity and quality of Family 1 - white-headed woodpecker habitat restored to conditions within HRV. Quantity is measured by acres of PVGs 2, 5, and portions of PVG 6 in the Large Tree Size Class and Low (but not less than 25 percent) Canopy Cover Class. Quality is measured by the old forest and snags, patch size and distribution as described in Appendix E of the WCS DEIS.
- Acres treated adjacent to occupied NIDGS sites to expand suitable habitat in the most key areas.

Recreation

Objective 5: *Manage recreation use in Boulder Creek and Lost Creek with an emphasis on providing sanitation facilities, identifying and hardening dispersed recreation areas, and developing new trail opportunities.*

Measurements:

- Miles of open motorized trail by vehicle class (per MVUM) for motorized trails, and miles of open and managed non-motorized trails.
- Miles of open road.
- Change to dispersed recreation sites measured by number of sites provided and recreation facilities provided in the sites.

Economics

Objective 6: *Contribute to the economic vitality of local communities.*

Measurements:

- Employment contribution (number of jobs on annual average).
- Income contribution.

PUBLIC INVOLVEMENT

Initial scoping for this project occurred on February 22, 2013. Letters requesting comments were sent to approximately 312 local, state, and federal agencies, individuals and organizations. The complete mailing list is in the project record. Legal notices were published in the Idaho Statesman (the legal paper of record) on February 27, 2013, the Adams County Record on February 27, 2013, and the McCall Star-News on March 7, 2013. A Notice of Intent (NOI) was published in the Federal Register on February 25, 2013. In addition, the New Meadows Ranger District hosted a public meeting to gather input on the project on March 20, 2013. This project was first listed on the Payette National Forest's Schedule of Proposed Actions (SOPA) in July, 2012, and scoping letters, project description and other project information were posted on the Payette National Forest public website at http://www.fs.usda.gov/land/payette/landmanagement. Twenty-two responses were received during scoping. The comments were reviewed and the Forest Service's responses are summarized project record.

A Draft Environmental Impact Statement (DEIS) for the Lost Creek-Boulder Creek Project was released to the public on November 4, 2013 with a Notice of Availability (NOA) in the Federal Register. This NOA began the 45-day public comment period on the DEIS. A total of 34 comment letters were received on the DEIS. Appendix A of the FEIS documents those comments and the Forest's response to them.

The Forest held a public meeting on November 18, and one on December 5, 2013 to answer questions and provide further information on the project. The Forest also hosted a public field trip on November 4, 2013.

TRIBAL CONSULTATION

Because Indian Tribes can be affected by the policies and actions of the Forest Service in managing the lands and resources under its jurisdiction, the Forest Service has a duty to consult with them on matters affecting their interests. Because of this government-to-government relationship, efforts were made to involve local tribal governments and to solicit their input regarding the proposed action.

The Forest Service introduced this project to the Shoshone-Paiute leaders during Wings and Roots Program meeting (government-to-government consultation) on April 12, 2012. Updates were provided to the Shoshone-Paiute leaders during Wings and Roots Program meetings on December 13, 2012, February 14, 2013, April 11, 2013, June 14, 2013, August 14, 2013, November 14, 2013, and December 12, 2013.

During informal consultation, the Forest Service presented the proposed action to the Nez Perce Resource Staff on March 6, 2013. Updates were provided to the Nez Perce Staff on June 5, 2013, September 4, 2013, and December 4, 2013. The Nez Perce Tribe requested formal consultation, which took place on March 11, 2014.

The proposed action was presented during informal consultation to the Shoshone-Bannock Tribe on September 11, 2013.

ISSUES AND INDICATORS

Issues were used to develop alternatives and/or appropriate mitigation measures or project design features to address the effects of proposed activities. Indicators were developed for each issue, and are used to compare the effects of proposed activities by alternative.

Forested Vegetation

Issue 1: *The intensity of the vegetation treatments will affect how well the desired conditions for vegetation and wildlife are achieved.*

Indicators: The following indicators will be evaluated after treatment.

- Tree Size Class
    - Acres treated to promote or maintain the large tree size class.
    - Distribution of tree size classes.
- Canopy Cover
    - Percentage of area (acres) in each canopy cover class within the large tree size class.

- Species Composition
    - Acres treated to maintain and promote desired species composition.
- Spatial Patterns
    - Percent departure from reference conditions per Potential Vegetation Group.

Watershed Resources and Fish Habitat

Issue 2: *Watershed conditions and sediment rates may be altered due to the proposed activities for roads, vegetative treatments, and prescribed fire within the analysis area.*

Indicators by subwatershed:

- Total miles of system road decommissioning that achieve long-term soil productivity and hydrologic function (obliteration)
- Total miles of unauthorized route treatments that achieve long-term soil productivity and hydrologic function (obliteration)
- Miles of system road decommissioning and unauthorized route treatments that achieve long-term soil productivity and hydrologic function (obliteration) within RCAs
- Total road density (system road and unauthorized routes) by subwatershed
- Miles of temporary road not located on existing roadbeds by subwatershed
- Maximum percent over natural sediment yield (BOISED Model output)
- Cumulative net difference in sediment yield over 10 years (BOISED Model output)

Issue 3: *The number of roads selected for the Minimum Road System (MRS) and their maintenance level and location could affect sediment rates and long term watershed functionality.*

Indicators:

- System road miles by subwatershed and maintenance level
- System road density by subwatershed
- Long-term annual percent over natural sediment yield (BOISED Model output)

Issue 4: *Proposed activities may change timing and duration of peak runoff and increase bank instability in sensitive stream channels.*

Indicators:

- ECA and CCR by 6^{th} field subwatershed
- Number of drainages with an increase to ECA where ECA and CCR are within, or moved into, the high category.

Issue 5: *Treatments that propose thinning of vegetation in RCAs may negatively affect sediment delivery, stream temperatures and large woody debris (LWD).*

Indicators:

- Acres of RCA vegetation treatments

- Acres of treatment within one site-potential tree height

Soil Productivity

Issue 6: *Proposed activities may decrease long-term soil productivity and impair soil-hydrologic function.*

Indicators:

- Amount of Detrimental Disturbance (DD) within activity areas meets Forest Plan requirement
- Amount of Total Soil Resource Commitment (TSRC) within the project area meets Forest Plan requirement

Wildlife

Issue 7: *Restoration treatments, while a benefit to white-headed woodpeckers, may adversely affect source habitat for other wildlife species, such as pileated woodpecker, northern goshawk, elk, and lynx, which are dependent on denser mixed-conifer forests with multi-layer structural characteristics.*

Indicator:

- Quantity (acres) and quality (old forest and snags, patch and pattern) of habitat for wildlife species that require moderate to dense, mixed-conifer forests (*e.g.*, pileated woodpecker (MIS), flammulated owl, elk, and lynx).
- Quantity (acres) and quality of low density ponderosa pine that serve as habitat for Family 1 wildlife species such as the white-headed woodpecker (MIS).

Issue 8: *Road densities affect wildlife (i.e., elk) security and can lead to the removal of important habitat components (snags) for cavity dependent wildlife.*

Indicator:

- Change in security areas and miles of NFS roads and unauthorized roads decommissioned by either physical closure, or by obliteration, and estimated effectiveness of decommissioning and resulting effects to elk and snags and wildlife species of concern.

Issue 9: *Project activities (logging, log haul, prescribed burning, and temporary road construction) may affect other wildlife species of concern, such as northern Idaho ground squirrel (NIDGS) and Canada lynx.*

Indicators:

- Quantity (acres) and quality of existing NIDGS habitat and acres treated to improve forage and population expansion.
- Quantity and quality of existing Canada lynx habitat.

Transportation

Issue 10: *Proposed changes to the road system such as road closures and decommissioning may reduce access to the areas identified in the Forest Plan for active management. Road access is needed for economical active management activities, including timber and biomass harvest, thinning, and fuels treatments.*

Indicators:

- Acres within suited timber base within ¼ mile from an existing system road.
- Acres within suited timber base within ¼ mile from a drivable existing system road.

Recreation

Issue 11: *Project may change the existing recreational road and trail access in the Lost Creek and Boulder Creek subwatersheds.*

Indicator:

- Miles of open motorized trail by vehicle class (per MVUM) for motorized trails, and miles of open and managed non-motorized trails.
- Miles of open road.

Issue 12: *Project activities may change the existing recreational dispersed camping opportunities in the Lost Creek and Boulder Creek subwatersheds.*

Indicator:

- Change to dispersed recreation sites measured by number of sites provided and recreation facilities provided in the sites.

Economics

Issue 13: *Costs associated with restoration activities under the proposed action are anticipated to exceed potential revenue generated over the life of the project. Although the proposed action would improve ecological health and function within the project area, the project may be perceived as economically inefficient from an accounting standpoint.*

Indicators:

- Present value of treatment costs
- Benefits from reduced fire risk
- Non-market benefits of improved ecological conditions

ALTERNATIVES CONSIDERED IN DETAIL

Alternative A–No Action

Consideration of the no-action alternative is required by NEPA in any environmental document. This alternative serves as the environmental baseline for analysis of effects. Under Alternative A, current management of the area would continue as directed in the Forest Plan, and activities proposed in this document would not be implemented. No fire and fuels treatment, road or watershed improvements, access closures, fish and wildlife improvements, or vegetation management associated with this project would occur.

Firewood gathering, fire suppression, invasive weed treatments, road and trail maintenance and other routine forest management activities not associated with this decision would continue as before. Implementation of Alternative A would not meet the purpose and need for this proposal.

Alternative B – Proposed Action

Alternative B is the proposed action. It responds in part to the purpose and need as stated in Chapter 1 of the FEIS, and incorporates the recommendations of the PFC and recreation access concerns expressed in comment letters and public meetings.

Alternative B Vegetation Treatments

Commercial Treatments

Stands would be thinned through commercial logging. Harvested trees would generally be removed with the limbs and tops attached. The limbs and tops would be utilized as biomass, or other products, where practical. Where appropriate and needed, sapling sized trees would be cut to reduce ladder fuels and promote desired advanced regeneration. Following harvest, these stands could be underburned as described in the prescribed fire section below. Commercial vegetative treatments have been divided into the following categories:

Commercial Thin-FreeTthin (CT-FT) - 12,200 acres. Free thinning would allow flexibility to use different thinning methods for varying stand conditions and objectives. For this project, free thinning would be accomplished primarily by low thinning (removing trees from the lower crown classes) with some crown thinning (removing trees from the dominant and co-dominant crown classes) and occasionally sanitation cutting (removing trees to improve stand health, especially mistletoe infections) to improve stand health by reducing the anticipated spread of insects or disease.

These treatments would generally be completed in forested areas dominated by mature, vigorous ponderosa pine, Douglas-fir and / or western larch (*i.e.* - PVG 1, 2, 5 and portions of PVG 6 dominated by early seral species) with canopy cover greater than 35 percent.

Free Thin–Patch Cut (FT-PC) - 1,800 acres. This treatment would be implemented in relatively cool, moist grand fir forest types (i.e. - PVG 6) that have evidence (*i.e.*, - relic early seral trees, stumps, snags, etc.) of previously having an aspen, ponderosa pine, western larch and/or Douglas-fir component. The treatment would occur in stands that still have a component of early seral species (*i.e.*, – 25 to 75 percent of the desired amounts) but not enough to free thin throughout and still leave the desired species composition.

Commercial Thin / Mature Plantations (CT-MP) - 8,100 acres. This treatment would be applied to stands that were previously artificially regenerated (plantations). These stands are typically greater than 30 years in age and were planted predominately with ponderosa pine, Douglas-fir, and/or western larch. These mature plantations contain commercial trees with an average diameter at breast height (DBH) greater than eight inches and would average approximately 70 to 80 trees per acre (this would generally result in crown spacing of 10-15 feet) after thinning. Thinning would generally favor the retention of larger, early seral trees and be completed to create stands with variable densities while promoting a mix of desired species. Merchantable material would be removed from the site and utilized as markets allow. Non-commercial material (slash) would be lopped and scattered, mechanically harvested, removed, hand piled, machine piled, and/or broadcast burned to reduce fuel loading. The cost of slash treatment, coarse

woody debris, and fuel loading would be considerations in determining the method of non-commercial material treatment.

Commercial Thin within RCA's- 1,800 acres. Both thinning and prescribed fire treatments are proposed in RCAs in the Lost Creek, Lower West Fork Weiser River, Upper West Fork Weiser River, and Upper Weiser subwatersheds. Thinning and prescribed fire treatments in RCAs are not proposed in the Boulder Creek subwatershed (see FEIS Appendix B for further information on treatments in RCAs). Approximately 1,800 acres of CT-FT and CT-MP treatments in RCAs have been proposed in areas dominated by drier forest types historically maintained by frequent, low intensity fire regimes to maintain upland vegetation within the historic range of variability. These acres are not additional acres of proposed treatment and are accounted for in the CT-FT and CT-MP sections above. Only areas in the outer half of RCAs have been proposed for this treatment and the CT-FT and CT-MP treatment descriptions would be modified in these areas to retain adequate stocking to achieve shade and large woody debris recruitment objectives within RCAs.

Non-commercial Treatments

Non-Commercial Thinning – 18,000 acres. Non-commercial thinning would be completed in plantations that currently have density-related stress occurring. This constitutes approximately 1,700 acres. These plantations are generally less than 30 years old and have an average DBH of less than eight inches. Within these plantations, thinning would be completed to improve wildlife habitat, increase growth rates and tree vigor, improve stand resiliency to natural disturbance, and reduce density-related competition. Post treatment, these stands would retain approximately 80 to 100 trees per acre. Thinning would favor early seral species but would retain a mixture of species and variable densities depending upon site-specific objectives. Where reserve trees within plantations receiving this treatment are causing forest health problems (primarily due to mistletoe) trees may be killed by girdling. Girdled trees would be marked with wildlife tags as necessary to meet desired snag numbers and sizes.

In addition to the above mentioned plantation thinning, ladder fuel thinning would occur on 16,000 acres. All acres targeted for the application of fire would be evaluated for ladder fuel thinning in order to minimize mortality from prescribed fire and aid in moving towards restored conditions. This ladder fuel thinning may occur within plantations to minimize prescribed fire-related mortality.

Associated Actions

A number of activities associated with implementing these vegetative treatments are necessary. These include: road maintenance and use, 25 miles of temporary roads, use of and potential development of gravel pits, harvest systems, brush disposal, site preparation, planting.

Alternative B Prescribed Fire Treatments

Approximately 45,000 acres of the project area would be targeted for prescribed burning over the next 15-20 years (see FEIS Figure 2-2). In stands where commercial activities are proposed the application of fire would generally occur after commercial activities are complete. Re-introducing 500 to 10,000 acres of fire annually for the next 15-20 years would move forested and non-forested vegetation towards conditions that more closely represent historic distribution, structure, and function, and would move the project area towards desired conditions as described in Appendix A of the Forest Plan.

Alternative B Watershed Improvement and Restoration Treatments

Road Maintenance and Travel Management

The Forest Service proposes to decommission approximately 68 miles of currently closed Forest system road and 90 miles of unauthorized route within the project area under Alternative B. Approximately 30 miles of currently closed Forest system road and 12 miles of unauthorized route are within the Boulder Creek subwatershed (an ACS priority) which improves the Boulder Creek subwatershed from Class 3 to Class 2. Road densities in the remaining subwatersheds would be also be reduced toward desired conditions, but the subwatershed condition class rating would remain in the Class 3 category as defined by the Watershed Condition Framework. Table S-1 describes the proposed restoration treatments for each of the subwatersheds in the project area (see also FEIS Figures 2-3 and 2-4).

Table S-1. Alternative B Proposed Road Treatments by Subwatershed

Road Treatments by Subwatershed	Subwatershed					Total
	Boulder Creek	Lost Creek	Lower West Fork Weiser	Upper West Fork Weiser	Upper Weiser River	
Existing National Forest System Road	93	183	7	115	72	470 miles
System Road Decommissioning *(Currently closed to the public)*	29	20	<1	9	9	68 miles
Mapped Unauthorized Routes	19	91	<1	33	39	183 miles
Treatment of Unauthorized Routes	12	40	0	20	18	90 miles
New Long Term Closure (Convert ML 2 to ML 1) *(Currently closed to the public)*	1	37	0	10	13	61 miles
Fish Passage Barrier Improvement	16	11	0	7	6	40 Improvements
Obliteration of routes used as Temporary roads	3.8	4.5	0.3	4.4	1.8	14.8 miles
Relocated FS System Road (*New Construction*)	0	0	0	0	1.5	1.5 miles
Re-routed FS System Road (*Existing Roadbed)*	0.6	0	0	0	0	0.6
Change in Overall Motorized Access (including OHV)	-1.0	+3.8	-0.4	-0.5	+0.1	+2.0 miles

Fish Passage/Habitat Connectivity

Improvements to fish passage, especially in the Boulder Creek subwatershed, are needed to address the purpose and need of the project. In 2002-2004, 52 crossings in the Boulder Creek subwatershed were surveyed for fish passage. Forty-one of those crossings were determined to be potential fish passage barriers (based only on their physical characteristics). Previous culvert replacements (7) have occurred in the Boulder Creek subwatershed on FS 074 (Smokey Boulder Road) from 2009-2012 on Cold Springs Creek, Bull Horn Creek, Star Creek, Twin Forks Creek, Yellow Jacket Creek, and Ant Basin Creek. The

remaining 34 crossings were compared to known fish distribution data, proximity to streams occupied with listed fishes, stream gradient, field observations of stream size, fish observations (including snorkel surveys near potential barriers), observations made in the Watershed Improvement Needs (WIN) (Kennell and Gabica 2012) report, and the location of critical habitat (CH). This process identified 16 crossings (of the 52) for fish passage improvement (removal or replacement, depending on road treatments), which is all of the known remaining passage barriers in the subwatershed. Crossings on streams that do not contain fish are presumed to not affect fish passage. These 16 crossings were rated as either a Priority 1 (within a stream occupied by listed fish species or in CH with suitable upstream habitat) or Priority 2 (either within CH or suitable habitat for TES or desired fish species) for removal or replacement.

This project proposes replacement of 11 of these barriers with appropriate structures (the remaining five barriers would be removed with the proposed road decommissioning). Due to the large scope and scale of this project, effects are discussed in a general (programmatic) manner. At the time this document was completed site-specific plans for fish passage improvements (culvert replacements) in Boulder Creek Subwatershed had not yet been developed. Site-specific plans in the Boulder Creek Subwatershed will be submitted to Level 1 when they are developed for approval prior to implementation (required by PDF 32).

Outside of the Boulder Creek subwatershed, an additional 24 road-stream crossings have been identified in the Lost Creek, Upper West Fork Weiser River and Upper Weiser River subwatersheds using culvert survey data and field reviews on larger streams and major tributaries as a Priority 2 (listed fishes and CH is not present in the project area outside of the Boulder Creek subwatershed) for potential replacement to improve fish passage. Although additional barriers are present in all subwatersheds on unnamed and intermittent stream channels, this project will focus on mainstem fish-bearing streams and tributaries. None of the subwatersheds outside of Boulder Creek are recognized as ACS watersheds or contain ESA-listed fishes. The 24 crossings included in this project will be replaced as road work and project activities occur in these areas to improve habitat conditions for desired native fish species, and improve hydrologic connectivity in those subwatersheds. PDFs (FEIS Table 2-6) will be implemented for all culvert replacements.

Alternative B Recreation Improvements

No new recreation facilities or improvements are proposed for the Upper West Fork Weiser, Lower West Fork Weiser, or Upper Weiser subwatersheds in Alternative B. Recreation improvements proposed for Boulder Creek (FEIS Figure 2-5) and Lost Creek (FEIS Figure 2-6) are described below.

Boulder Creek

Trail maintenance and trail relocation to improve watershed conditions by repairing erosion problems along the trails (due to lack of trail maintenance and poorly located portions of some trails) are the focus of recreational improvements proposed in Boulder Creek (see FEIS Figure 2-5). Additionally, old pit outhouses would be removed and the sites would be restored.

1. Perform heavy maintenance on all existing Forest Service system trails within the Boulder Creek subwatershed to improve them to Forest Service Trail standards, including closing one trailhead and improving one trailhead. Specific trail work would:

    a) Improve the Pollock Trail #179 trail tread where it intersects and crosses any FS Road to better define the trail location; haul out the old previously removed metal culvert laying alongside the trail; install new trail signs at all trail junctions and where the trail crosses roads;

remove the deteriorated horse ramp from the Chokecherry Flat junction (Road 50158/Trail #179 junction); complete a trail re-route between Chokecherry Flat and the #178 Rapid Ridge Trail junction to avoid steep and rocky terrain.

b) On #181 Cow Camp Trail repair the bog crossing with a wooden board walk and complete brushing along the entire trail length.

c) On Indian Springs Trail #184, install a trail sign and construct a 2-3 vehicle pull-out for parking along FS Road 50074; complete reconstruction work on the switchbacks located below the Chokecherry Flat Road 50158.

d) On Rapid Ridge Trail #178, complete heavy trail maintenance, and focus on work needed to repair damage to the trail tread caused by the 2012 Wesley Fire

2. Decommission the Ant Basin #324 trail head, 0.9 miles of Trail #324 (non-motorized trail in the Rapid River IRA) that accesses the #178 trail, close and decommission a short segment of Forest Road 50079 that access the trailhead and would no longer be needed. Relocate all trail use to the larger, better located Ant Basin South #519 trailhead; improve FS Road 51254 (which accesses the Ant Basin South Trailhead and #519 motorized trail); construct trailhead parking at the Ant Basin South trailhead, which would accommodate up to four horse trailers/trucks and an additional two passenger vehicles at one time; provide a turn-around for trucks with trailers and install a single vault restroom, and two metal hitch rails for stock.

3. Decommission and remove five unusable wooden pit outhouses located along FS Road 50074 road in the Boulder Creek subwatershed and rehabilitate the sites.

Lost Creek

1. Install three, 3-panel entrance/information kiosks at the primary entry points to the reservoir. The middle panel on each kiosk will have a large scale map of the reservoir area that displays where dispersed camping using a vehicle is allowed, new OHV trail opportunities, vault restroom locations, developed fee camping opportunities (Cold Springs Campground), and the areas where the Forest Service is promoting personal self-contained toilets for camping use.

2. Install up to six single vault toilets around the reservoir in the most popular dispersed camping areas; promote the use of self-contained portable toilet units, (similar to what river users carry) in dispersed camping areas outside the immediate reservoir area; remove and decommission one remaining unusable wooden pit toilet located adjacent to the dam.

3. Identify and sign one main access road into the larger dispersed sites located along the west side of the reservoir, improving the entrance roads where needed to bring them up to road standards for Level 2 roads; close and rehabilitate the multiple access routes into these dispersed camping sites.

4. Designate and/or improve up to 68 (with signing, barrier rock and some pole fencing) desired dispersed campsites to retain; harden (gravel) and install barrier rock and fencing to define the boundaries of the larger sites to avoid perpetual and continued growth of the camping sites/areas; sign the access into these sites from main roads and sign individual dispersed campsites; add fire rings to some of the larger identified dispersed camping sites. Dispersed camping using a motorized vehicle will be restricted to designated sites only on Forest Road 50089 road surrounding the Lost Valley Reservoir. A portion of the 68 sites to be improved are not located on the 089 road surrounding the reservoir. They are located along roads 50139 and 50154. These dispersed camping sites may have fire rings and other improvements, but would not be within a “designated camping corridor”.

5. Complete closure and restoration of up to 12 dispersed camping sites too close to the reservoir and/or those with poor access or near riparian areas within Lost Creek subwatershed.

6. Develop 15 miles of OHV trail using a combination of closed roads, unauthorized routes and open seasonal roads. The proposed 15 miles are located south and west of Lost Valley Reservoir. The OHV trails would be seasonally open (November 7-Sept 30) to vehicles 70 inches and less, which typically can accommodate both ATV and UTV use (Special Designation).

Public Access

Under Alternative B, approximately 255 miles of open road would be available within the entire project area for public access for recreation opportunities including, but not limited to hunting access, fire wood gathering, berry picking, scenic driving, and dispersed camping in designated sites along the open roads.

Approximately 200 miles of the 255 miles of open road is open to dispersed camping using a motorized vehicle up to 300 feet off the road. This is 19 miles less than Alternative A (Existing condition was 219 miles open). The reduction in 19 miles comes from the seasonal road to OHV trail conversion (8 miles), and the designation of portions of roads 089, 381, 386, of portion of 1473 to "Dispersed camping using a motorized vehicle in designated sites only" (11 miles).

Alternative C

Alternative C addresses comments that requested a more effective watershed restoration effort (especially in Boulder Creek) and is designed move the Boulder Creek subwatershed toward WCF Condition Class 1 and toward the Forest Plan rating of Functioning Appropriately (FA) for the road density WCI. This alternative emphasizes watershed restoration treatments in all subwatersheds throughout the project area (see FEIS Figures 2-8 and 2-9).

Alternative C Vegetation Treatments

Commercial Thin-Free Thin (CT-FT) – 8,500 acres. Treatments in drier ponderosa pine and Douglas-fir forest types (PVGs 1 and 2) would be identical to those proposed in Alternative B. The purpose of CT-FT treatments would be identical to those in Alternative B.

In the cooler and moister grand fir forest types (PVGs 5 and 6), only the more dense stands (typically with higher existing canopy cover) would be proposed for treatment and only when there is an existing component of the desired species composition.

These treatments would be similar to CT-FT treatments described in Alternative B. The major differences are that this alternative would:

- Limit the amount of sanitation cutting to improve stand health by reducing the anticipated spread of insects or disease. Sanitation treatments would not occur in mature stands unless they were in or adjacent to stands of young trees that would be adversely affected by forgoing sanitation treatments.
- These treatments would generally be completed in forested areas dominated by mature, vigorous ponderosa pine, Douglas-fir and / or western larch (*i.e.* - PVG 1, 2, 5 and portions of PVG 6 dominated by early seral species)
- In PVG 5 and 6, these treatments are proposed only in dense stands, typically with greater than 70 percent canopy cover.

Commercial Thin / Mature Plantations (CT-MP) – 6,000 acres. These treatments would be identical to Alternative B except that 10-20 percent of each stand would be untreated to provide addition elk security and thermal cover.

Commercial Thin within RCAs- No commercial thinning treatments (CT-FT or CT-MP) within RCAs have been proposed in this alternative.

Non-commercial Vegetation Treatments

Non-Commercial Thinning – 22,000 acres. As in Alternative B, approximately 1,600 acres of non-commercial thinning in plantations is proposed. Approximately 4,000 more acres of ladder fuel thinning have been proposed in Alternative C than in Alternative B.

Associated Actions

Actions associated with this alternative also include road maintenance and haul, temporary roads, harvest systems, and brush disposal. No site preparation or reforestation activities are planned as a part of this alternative. Other differences include fewer miles of system roads that would be utilized for commercial product haul, and only 11 miles of planned temporary roads.

Alternative C Prescribed Fire Treatments

Prescribed fire treatments under Alternative C would be identical to the proposed action (see FEIS Figure 2-2).

Alternative C Watershed Improvement and Restoration Treatments

Alternative C identifies additional system roads for decommissioning when compared to the proposed action (Table 2-2). Approximately 132 miles of currently closed Forest system road and 117 miles of unauthorized route within the project area is proposed tor decommissioning under Alternative C.

Approximately 60 miles of system road in the Boulder Creek subwatershed would be decommissioned, which would move the Road Density/Location WCI from the Functioning at Unacceptable Risk (FUR) category to the Functioning at Risk (FR) rating as described in Appendix B of the Forest Plan. The overall road density including system and unauthorized routes in the Boulder Creek subwatershed would result in approximately 1.0 miles per square mile. This would also achieve the goal of improving the subwatershed toward the WCF Class 1 condition class as described by Potyondy and Geier (2010). The change in condition class would be attributed to road decommissioning (reducing road-related impacts), road and trail maintenance (reducing erosion), enhancement of aquatic habitat (increased fish passage), and improvements to RCAs (due to obliteration of roads within RCAs).

Road Maintenance and Travel Management

System roads identified to remain on the landscape as part of the reduced MRS would be maintained and improved as described in the proposed action. Activities designed to reduce sediment production in the Boulder Creek subwatershed would be guided by site-specific (GRAIP) sediment modeling. All closed maintenance level 1 roads would receive appropriate long-term closure treatments including culvert removal, installation of drainage features, and establishment of vegetation to reduce erosion. All roads identified as closed to the public would receive an effective closure, such as gates or berms, or by obliteration of a short section or road and placement of rock or large woody debris.

Table S-2. Alternative C Proposed Road Treatments by Subwatershed.

Road Treatments by Subwatershed	Subwatershed					Total
	Boulder Creek	Lost Creek	Lower West Fork Weiser	Upper West Fork Weiser	Upper Weiser River	
Existing National Forest System Road	93	183	7	115	72	470 miles
System Road Decommissioning *(Currently closed to the public)*	60	26	3	24	19	132 miles
Mapped Unauthorized Routes	19	91	<1	33	39	183 miles
Treatment of Unauthorized Routes	15	51	<1	23	28	117 miles
New Long Term Closure (Convert ML 2 to ML 1) *(Currently closed to the public)*	0	1.1	0	0	0	1.1 miles
Fish Passage Barrier Improvement	16	11	0	7	6	40 Improvements
Obliteration of routes used as Temporary roads	1.1	3.6	0	0.2	1.3	6.1 miles
Relocated FS System Road (*New Construction*)	0	0	0	0	0	0 miles
Re-routed FS System Road *(Existing Roadbed)*	0.6	0.1	1.7	2.2	0	4.6 miles
Change in Overall Motorized Access (including OHV)	-9.9	-3.0	-2.6	-11.4	-2.9	-29.8

Fish Passage/Habitat Connectivity

Within the Boulder Creek subwatershed, the 16 crossings identified as important fish passage barriers would remain the same as described in the proposed action. Twelve of those crossings would be addressed by removal as part of proposed road decommissioning. The four remaining crossings (which are located on steelhead CH) would be replaced with appropriate crossing structures.

In addition to the aforementioned 16 crossings in the Boulder Creek subwatershed, an additional seven (mapped) perennial stream crossings would be removed during decommissioning on the northern portion of the Chokecherry Flat Road (FS50158) which would provide additional improvements in fish habitat connectivity in streams including: Pollock Creek, Cold Springs Creek, Bull Horn Creek, Star Creek and the North Fork of Star Creek. Additional stream crossing removals would also occur on unnamed and unmapped streams, but the exact number is not known.

Outside of the Boulder Creek watershed, actions regarding fish passage improvements would be identical to those described in the proposed action. Additional stream crossings would be removed through road decommissioning (when compared to the proposed action) but improvements to fish passage from those crossing removals is expected to be incremental.

Alternative C Recreation Improvements

The recreation portion of Alternative C would be the same as Alternative B with the following exceptions (see Figure 2-11):

The proposed OHV trail miles in the Lost Creek area are 11 miles, would be would be seasonally open (November 7-Sept 30) and limited to "vehicles 50 inches and less in width (this typically accommodates ATV use).

In the Lost Creek area, approximately 11 miles of non-motorized, Trail Class 1 (minimally developed) (FSH 2353.142, Exhibit 01) with a managed and designed use for Pack and Saddle Stock use would be added to the trail system. These new trails would be also open to other non-motorized uses, including hiking and mountain biking. In the Boulder Creek area, approximately 4.5 miles of non-motorized trail, as described above, would be added to the trail system, and in the Upper Weiser River subwatershed, approximately 5.3 miles of trail would be added. The added trails are primarily located on existing road prism. Approximately three miles of trail would need to be constructed to connect all five of these proposed loops.

Lick Creek Trail #358, which accesses the Lick Creek Lookout, would receive heavy trail maintenance.

Dispersed camping using a motorized vehicle would be restricted to designated sites only on all open roads throughout the project area. (The existing condition, Alternative A, has 219 miles of road open to dispersed camping using a motorized vehicle up to 300 feet off the road).

Approximately 200 sites could be designated within the project area (including the 68 sites proposed for designation surrounding the Lost Valley Reservoir road system.

Public Access

Alternative C results in a reduction of 41 miles of roads open to the public. A total of 224 miles of roads open to the public would remain. These roads would be available for public access and recreation opportunities including, but not limited to hunting access, fire wood gathering, berry picking, scenic driving, and dispersed camping in designated sites along the open roads.

Alternative D

Alternative D responds to public comments relating to the intensity and benefit of vegetation treatments (species composition, level of vegetation restoration, and spatial arrangement of forested vegetation).

The primary differences between Alternative D and the proposed action are additional vegetative treatments have been proposed and the regeneration treatments are more intensive.

Alternative D Vegetation Treatments

Commercial Vegetation Treatments

Commercial Thin-Free Thin (CT-FT) – 14,500 acres. The purpose and description of these treatments would be similar to Alternative B with the exception of the following specifications:

- Where aspen are present, conifers could be removed within the aspen stand to improve the integrity of these stands. Openings of less than 10 acres may be utilized to stimulate aspen regeneration.

- In PVGs 1 and 2, the average canopy cover in these stands after harvest and underburn operations would be between 20 and 30 percent (10 to 25 foot crown spacing). In PVGs 5 and 6, average post treatment canopy cover would be between 30 and 35 percent (10 to 15 foot crown spacing).

Shelterwood with Reserves – 2,600 acres. This alternative would utilize the shelterwood with reserves method to regenerate stands that do not have enough ponderosa pine, western larch and/or Douglas-fir to free thin throughout and retain these species in desired quantities.

These treatments would retain small clumps and patches of untreated areas throughout each stand to meet wildlife and visual quality objectives. The specifications for this treatment are:

- In regenerated portions of the stand retain a minimum of 8-12 trees per acre (approximately 10-12 percent canopy cover), preferably seral species in the dominant and codominant crown classes. If seral species are not available, dominant nonseral and vigorous serals in any crown class would be the second preference for reserve trees;

- Retain 5 to 10 percent of the stand area in untreated patches ranging from 1/10th to two acres in size. These patches should be located where there are clumps of seral species and/or around existing snags (preferably seral snag greater than 20 inches in diameter), when available;

- If portions of the stand could be treated with CT-FT treatment and retain a basal area of greater than 40 feet^2 of seral species, treat those areas with CT-FT treatment described above.

Commercial Thin / Mature Plantations (CT-MP) - 8,100 acres. These treatments would be identical to Alternative B.

Commercial Thin within RCAs- 2,000 acres. Commercial treatments within RCAs would be identical to Alternative B except an additional 200 acres of RCAs have been proposed for treatment bringing the total to 2,000 acres of CT-FT and CT-MP treatments in RCAs.

Non-commercial Vegetation Treatments

Non-Commercial Thinning – 18,000 acres. Same as Alternative B.

Associated Actions

Actions associated with this alternative (road maintenance, temporary roads, harvest systems, and brush disposal) are identical to Alternative B except that additional site preparation and reforestation would be completed and 31 miles of temporary roads are proposed.

Alternative D Prescribed Fire Treatments

Prescribed fire actions under Alternative D would be the same as under Alternative B, the proposed action (see FEIS Figure 2-2). Additional acres of prescribed fire may be completed in areas thinned but not targeted for burning for brush disposal and site preparation objectives under this alternative.

Alternative D Watershed Improvement and Restoration Treatments

All project activities designed for watershed improvement (road treatments and fish passage improvements) would remain as described in the proposed action (Alternative B), with the exception that under Alternative D, 12 miles (instead of 61 miles) of closed Maintenance Level 2 Forest system road

would be placed in Long Term Closure status (Maintenance Level 1) (see Figures 2-13 and 2-14). These roads would receive appropriate long-term closure treatments including culvert removal, installation of drainage features, and establishment of vegetation to reduce erosion to make them self-maintaining. All roads identified as not open to the public would have an effective closure device (such as a gate, berm, or other closure device) installed.

Table S-3. Alternative D Proposed Road Treatments by Subwatershed.

Road Treatments by Subwatershed	Subwatershed					Total
	Boulder Creek	Lost Creek	Lower West Fork Weiser	Upper West Fork Weiser	Upper Weiser River	
Existing National Forest System Road	93	183	7	115	72	470 miles
System Road Decommissioning *(Currently closed to the public)*	29	20	<1	9	9	68 miles
Mapped Unauthorized Routes	19	91	<1	33	39	183 miles
Treatment of Unauthorized Routes *(Currently closed to the public)*	12	40	0	20	18	90 miles
New Long Term Closure (Convert ML 2 to ML 1) *(Currently closed to the public)*	1	2	0	1	7	11 miles
Fish Passage Barrier Improvement	16	11	0	7	6	40 Improvements
Obliteration of routes used as Temporary roads	3.8	4.5	0.3	4.4	1.8	14.8 miles
Relocated FS System Road *(New Construction)*	0	0	0	0	1.5	1.0 miles
Re-routed FS System Road *(Existing Roadbed)*	0.6	0	0	0	0	0.6 miles
Change in Overall Motorized Access (including OHV)	-1.0	+3.8	-0.4	-0.5	+0.1	+2.0 miles

Alternative D Recreation Improvements

Recreation improvements under Alternative D would be the same as under Alternative B, the proposed action (see FEIS Figures 2-5 and 2-6).

Alternative E

Alternative E responds to comments that question the implementation costs of the project compared to projected economic and restoration benefits. It drops some of the more expensive treatments, while attempting to retain restoration goals of the proposed action.

Similar treatments to Alternative D are proposed in Alternative E, although less acres of treatment have been proposed. Approximately 20,500 acres of commercial treatments and approximately 12,000 acres of non-commercial treatments are proposed in Alternative E (see Figure 2-15). Treatments are spatially

arranged to create continuous blocks of habitat. In addition, some of the more expensive treatments have been limited in amount to create an alternative that is more cost conscientious than the other alternatives.

Alternative E Vegetation Treatments

Commercial Vegetation Treatments

Fewer commercial acres have been proposed because treatments have been designed to retain areas with elk security, to clump treatments and to minimize restoration treatments in mature plantations that are isolated from other commercial treatments.

Commercial Thin-FreeTthin (CT-FT) – 13,200 acres. The purpose and description of these treatments would be identical to Alternative D, except that fewer acres are proposed.

Shelterwood with Reserves – 1,900 acres. This treatment would be identical to the Shelterwood with Reserves treatment in Alternative D. Slightly fewer acres have been proposed to focus regeneration treatments adjacent to high priority CT-FT treatments.

Commercial Thin / Mature Plantations (CT-MP) – 5,400 acres. This alternative would treat fewer acres of mature plantations than any of the other alternatives in an attempt to minimize cost while prioritizing mature plantations that would best benefit from this treatment.

Commercial Thin within RCAs- 1,600 acres. Commercial treatments within RCAs would be identical to Alternative B except 200 fewer RCA acres have been proposed for treatment, bringing the total to 1,600 acres of CT-FT and CT-MP treatments in RCAs. Again, these treatments are not in addition to the CT-FT and CT-MP acres proposed above but are included in the totals for those treatments.

Non-commercial Vegetation Treatments

Non-Commercial Thinning –12,000 acres. Under Alternative E approximately 900 acres of plantation-specific thinning and 11,100 acres of ladder fuel thinning would occur. This is 30 percent less ladder fuel thinning than under Alternative B, the least amount of non-commercial thinning of all action alternatives.

Associated Actions

Associated actions in this alternative would be identical to Alternative D except that only 15 miles of temporary roads are proposed; and brush disposal would emphasize machine piling and burning, whole tree yarding and landing pile burning. Biomass removal would still be utilized but would only occur when necessary to meet other resource objectives (*i.e.* – visual quality, wildlife, SWRA).

Alternative E Prescribed Fire Treatments

Prescribed fire treatments under Alternative E would be identical to the proposed action with the following exceptions (see FEIS Figure 2-16):

- Total acres of total prescribed fire would be decreased by 30 percent (31,500 acres)
- Acres of prescribed fire applied annually would be decreased by 30 percent (500-7,000 acres)
- No prescribed fire treatments would be applied within the Boulder Creek Watershed

Alternative E Watershed Improvement and Restoration Treatments

Road Maintenance and Travel Management

Roads identified to remain on the landscape as part of the MRS would be maintained and improved as described in the proposed action. Activities designed to reduce sediment production in the Boulder Creek subwatershed would be guided by site-specific (GRAIP) sediment modeling. Closed maintenance level 2 roads identified to become maintenance level 1 roads would receive long-term closure treatments including culvert removal, drainage features, and establishment of vegetation to reduce erosion. All roads identified as closed to the public would receive effective closure.

Table S-4. Alternative E Proposed Road Treatments by Subwatershed.

Road Treatments by Subwatershed	Subwatershed					Total
	Boulder Creek	Lost Creek	Lower West Fork Weiser	Upper West Fork Weiser	Upper Weiser River	
Existing National Forest System Road	93	183	7	115	72	470 miles
System Road Decommissioning *(Currently closed to the public)*	29	12	0	6	4	51 miles
Mapped Unauthorized Routes	19	91	<1	33	39	183 miles
Treatment of Unauthorized Routes *(Currently closed to the public)*	12	40	0	20	18	90 miles
New Long Term Closure (Convert ML 2 to ML 1) *(Currently closed to the public)*	1	2	0	1	7	11 miles
Fish Passage Barrier Improvement	16	0	0	0	0	16 Improvements
Obliteration of routes used as Temporary roads	3.8	4.5	0.3	4.4	1.8	14.8 miles
Relocated FS System Road (*New Construction*)	0	0	0	0	0	0 miles
Re-routed FS System Road *(Existing Roadbed)*	0.6	0	0	0	0	0.6 miles
Change in Overall Motorized Access (including OHV)	-1.0	+3.8	-0.4	-0.5	+0.1	+2.0 miles

Fish Passage/Habitat Connectivity

The 16 crossings identified in the Boulder Creek subwatershed would be improved (removed or replaced) as described in the proposed action. The 24 fish passage improvements in the Weiser River subbasin identified in the proposed action would not be addressed with this project.

Alternative E Recreation Improvements

Recreation improvements under Alternative E would be the same as under Alternative B, the proposed action (see FEIS Figures 2-5 and 2-6).

COMPARISON OF ALTERNATIVES

Table S-5 compares restoration activities by alternative. Tables S-6 through S-17 compare alternatives by each resource objective. Tables S-18 through S-31 compare alternatives by issue.

Table S-5. Comparison of Alternatives by Activity.

Proposed Actions	Unit	Alt A	Alt B	Alt C	Alt D	Alt E
Vegetation, Prescribed Fire and Associated Actions						
Commercial Thin-Free Thin	Acres	0	12,200	8,500	14,500	13,200
Free Thin-Patch Cut	Acres	0	1,800	0	0	0
Commercial Thin-Mature Plantation	Acres	0	8,100	6,000	8,100	5,400
Shelterwood with Reserves	Acres	0	0	0	2,600	1,900
Commercial Treatments in Riparian Conservation Areas[2]	Acres	0	1,800	0	2,000	1,600
Non-commercial thinning	Acres	0	18,000	22,000	18,000	12,000
Planned temporary road (Total)	Miles	0	25	11	31	15
New temporary road construction	Miles	0	10	5	13	7
Reconstruction of existing unauthorized route road prism used as temporary road	Miles	0	15	6	18	8
Prescribed burning	Acres	0	45,000	45,000	45,000	31,500
Watershed and Fisheries Improvements						
Total fish passage barrier improvements	Number	0	40	40	40	16
System road decommissioning	Miles	0	68	132	68	51
Unauthorized route treatments	Miles	0	90	117	90	90
New long-term closures	Miles	0	61	1	12	12
Road reroutes (to existing roadbed)	Miles	0	.6	4.6	.6	.6
Road relocations (new construction)	Miles	0	1.5	0	1.5	0
Recreation Improvements						
Roads open to the public in project area	Miles	265	255	224	255	255
Non-motorized trail	Miles	18	17	37	17	17
2-wheel motorized (single-track)	Miles	18	18	18	18	18

[2] Riparian Conservation Area treatment acres are not additional acres. These acres are included in commercial thin/non-commercial thin acres.

Proposed Actions	Unit	Alt A	Alt B	Alt C	Alt D	Alt E
OHV trail (ATV and/or UTV)	Miles	0	15[3]	11	15	15
Conversion of seasonally open road to seasonal OHV trail	Miles	0	12	12	12	12
Designate and/or improved dispersed campsites	Number	0	68	200	68	68
Decommission outhouses	Number	0	6	6	6	6
Install new vault toilets	Number	0	7	7	7	7

[3] The DEIS identified 13 miles of proposed OHV trail and stated that an additional 7 miles would be identified over the remainder of the analysis process for a total of 20 miles. Only an additional 2 miles were identified, therefore Alternatives B, D and E now propose 15 miles of OHV trail.

Comparison of Project Objectives by Alternative

Objective 1: Forested Vegetation

Table S-6. Comparison of Alternatives for Objective 1: Forested Vegetation.

Measurements	Alt A	Alt B	Alt C	Alt D	Alt E
Tree Size Class (TSC) • Acres treated to promote or maintain the large tree size class. • Percentage of area (acres) in each tree size class.	Slowest movement toward desired conditions. Leaves least resilient/resistant conditions.	• 15,200 • No immediate post-treatment effects to TSC. Moderate duration of benefits to individual tree growth due to treatment intensity.	• 10,100 • No immediate post-treatment effects to TSC. Least duration of benefits to individual tree growth due to less treatment intensity.	• 16,400 • No immediate post-treatment effects to TSC. Proposes most intensive intermediate treatments which would result in quicker development into large TSC.	• 14,300 • Same as Alt D, except reduced prescribed fire and non-commercial thinning would result in less resilient/resistant landscape conditions than all other action alternatives.
Canopy Cover • Percentage of area (acres) in each canopy cover class (CCC) within the large tree size class.	Moves further from desired conditions. Leaves least resilient/resistant conditions.	**PVG 2:** Moves considerably toward desired conditions. **PVG 5:** Closer in the short term than any of the other alternatives. **PVG 6:** Initially a slight overabundance of low CCC. Over time (i.e. 15-20 years), moves closer to desired low/moderate conditions.	**PVG 2:** Similar to Alt B. **PVG 5:** Less movement toward desired CCCs than all other Alts. **PVG 6:** Very little movement toward desired conditions. **Overall:** Least intensive, retains CCC at relatively high levels.	**PVG 2:** Similar to Alt B. **PVG 5:** Moves closer in the short term than any other alternatives. More abundance in the low CCC. **PVG 6:** Initial overabundance of low CCC. Over time (i.e. 15-25 years), moves closer to desired levels. **Overall:** Most intensive, retains lowest CCC levels of all alternatives.	Effects similar to Alternative D, slightly less acres considered for treatment.
Species Composition • Acres treated to maintain and promote desired species composition.	0	43,200 acres - Proposed treatment intensity is between those in Alternative C (least intensive) and Alternatives D and E (most intensive).	38,300 acres- Proposes least intensive treatments of all alternatives that would have minimal benefits for future species compositions.	44,200 acres- Proposes most intensive treatments that would have greatest benefit on future species composition.	32,500 acres- Proposes most intensive treatments that would have greatest benefit on future species composition.

Measurements	Alt A	Alt B	Alt C	Alt D	Alt E
Spatial Patterns • Percent departure from reference conditions per Potential Vegetation Group. *Immediate post treatment vegetation departure is in bold, 25-year post vegetation departure in italics.*	**PVG 2: 68** *(69)* **PVG 5: 47** (*55)* **PVG 6: 51** *(75)* **Weighted Ave.: 55** *(69)*	**PVG 2: 61** *(40)* **PVG 5: 42** *(32)* **PVG 6: 53** (*57)* **Weighted Ave.: 52** *(46)*	**PVG 2: 61** *(47)* **PVG 5: 41** *(36)* **PVG 6: 52** (*56)* **Weighted Ave.: 52** *(49)*	**PVG 2: 60** *(40)* **PVG 5: 46** *(32)* **PVG 6: 58** *(37)* **Weighted Ave.: 56** *(37)*	**PVG 2: 61** (*43)* **PVG 5: 46** (*32)* **PVG 6: 56** (44) **Weighted Ave.: 55** (*41)*

Objective 2: Fire and Fuels

Table S-7. Acres of Significant Movement toward Historic Fire Regimes by Alternative.

Historic Fire Regime	Vegetated Project Area Acres	Percent of Each Fire Regime Significantly Improved by Alternative			
		Alt. B	Alt. C	Alt. D	Alt. E
Non-Lethal	41,867	*66%*	*67%*	*68%*	*44%*
Mixed-Severity I	26,238	*32%*	*23%*	*32%*	*14%*
Mixed-Severity II	7,342	*<1%*	*<1%*	*<1%*	*<1%*
Stand Replacement	1,668	*<1%*	*<1%*	*<1%*	*<1%*
TOTAL / Percent of project area significantly improved	77,155	**37,600**	**38,000**	**38,700**	**30,400**
		49%	*49%*	*50%*	*39%*
Note: It has been assumed that stand treatments consisting of both, thinning and burning would have the greatest impact in restoring fire regimes. Therefore, these acres would likely result in significant improvements. Additionally, grasslands proposed for burning are included in these acres of significant improvement.					

Table S-8. Acres of Improved Historic Fire Regimes by Alternative.

Treatment	Alt. B	Alt. C	Alt. D	Alt. E
Thin and Burn (Stands)	31,800	32,200	32,900	24,900
Thin Only (Stands)	8,300	4,300	10,300	7,600
Burn Only (Stands)	7,400	7,000	6,300	1,100
Burn Only (Grasslands)	5,800	5,800	5,800	5,500
Total	**53,300**	**49,300**	**55,300**	**37,000**

Objective 3: Soil, Water, Aquatic, and Riparian Resources

Table S-9. Miles of Connectivity Restored in Each Project Area Subwatershed.

Subwatershed	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Boulder Creek	0	33.5	47.9	33.5	31.9
Upper Weiser River	0	35.7	41.4	36.7	20.0
Lost Creek	0	57.5	59.4	63.9	35.7
Upper West Fork Weiser River	0	34.4	36.7	37.2	27.8
Lower West Fork Weiser River	0	1.3	2.4	1.3	0.2
TOTAL	0	162.4	187.8	172.6	115.6

Table S-10. Total and RCA Road Density by Subwatershed.

Subwatershed	Alternative A (Existing Cond)		Alternative B		Alternative C		Alternative D		Alternative E	
	Total Road Density	RCA Road Density	Total Road Density	RCA Road Density	Total Road Density	RCA Road Density	Total Road Density	RCA Road Density	Total Road Density	RCA Road Density
Boulder Creek	3.0	3.4	1.8	2.0	1.0	1.3	1.8	2.0	1.9	2.1
Upper Weiser River	4.7	12.5	3.5	7.8	2.7	6.2	3.5	7.8	3.7	9.2
Lost Creek	7.4	9.9	5.6	6.8	5.2	6.4	5.6	6.7	5.9	7.0
Upper West Fork Weiser River	8.6	10.3	6.7	6.9	5.9	5.7	6.6	6.9	7.0	7.3
Lower West Fork Weiser River	1.4	2.7	1.3	2.4	1.0	1.5	1.3	2.4	1.4	2.7

Objective 4: Wildlife Resource

Table S-11. Change in White-headed Woodpecker Habitat by Alternative and Potential Vegetation Group (acres) for Large Tree and Low Canopy, Immediately Post-Harvest (short-term).

	No Action	Alternative B	Alternative C	Alternative D	Alternative E
PVG 1	342	443	402	448	407
PVG 2	304	2,575	1,917	2,558	2,318
PVG 3	---	---	---	---	---
PVG 5	893	5,012	3,802	5,057	4,895
PVG 6	196	4,265	680	6,029	4,849
Totals	1,735	12,296	6,801	14,193	12,469

Table S-12. Change in White-headed Woodpecker Habitat by Alternative and Potential Vegetation Group (acres) for Medium Tree and Low Canopy that will become habitat 5-30 years post treatment (long-term).

	Alternative B	Alternative C	Alternative D	Alternative E
PVG 1	1,152	1,152	1,152	1,089
PVG 2	6,869	6,197	6,999	6,561
PVG 3	---	---	---	---
PVG 5	4,322	3,915	4,323	4,295
PVG 6	3,752	2,826	3,769	3,375
Totals	16,095	14,090	16,243	15,320

Table S-13. NIDGS Priority #1 Habitat Treatments (acres).

	Alternative B	Alternative C	Alternative D	Alternative E
No Treatment*	(621)	(599)	(622)	(1,370)
Free Thin	483	338	493	463
Free Thin - Biomass	423	344	423	289
Pre-commercial thin	158	137	158	83
Rx Fire Only	4,077	4,304	4,067	3,558
Total Treatments	5,141	5,123	5,141	4,393

Table S-14. NIDGS Priority #2 Habitat Treatments (acres).

	Alternative B	Alternative C	Alternative D	Alternative E
No Treatment*	(2,498)	(2,739)	(2,412)	(3,765)
Free Thin	2,076	1,184	2,378	2,221
Free Thin - Biomass	1,200	864	1,200	802
Pre-commercial thin	128	95	128	80
Rx Fire Only	5,420	6,440	5,164	4,428
Shelterwood	0	0	39	26
Total Treatments	8,824	8,583	8,909	7,557

Objective 5: Recreation Resource

Table S-15. Comparison of Recreation Objective and Measurements by Alternative.

Recreation Improvements						
Roads open to the public in project area	Miles	265	255	224	255	255
Non-motorized trail	Miles	18	17	37	17	17
2-wheel motorized (single-track)	Miles	18	18	18	18	18
OHV trail (ATV and/or UTV)	Miles	0	15[4]	11	15	15
Conversion of seasonally open road to seasonal OHV trail	Miles	0	12	12	12	12
Designate and/or improved dispersed campsites	Number	0	68	200	68	68
Decommission outhouses	Number	0	6	6	6	6
Install new vault toilets	Number	0	7	7	7	7

[4] The DEIS identified 13 miles of proposed OHV trail and stated that an additional 7 miles would be identified over the remainder of the analysis process for a total of 20 miles. Only an additional 2 miles were identified, therefore Alternatives B, D and E now propose 15 miles of OHV trail.

Objective 6: Economics Resource

Table S-16. Annual Employment by Activity Type by Alternative.

Proposed Activities	Alt B	Alt C	Alt D	Alt E
Commercial Forest Products				
Logging and Processing	26	13	38	35
Associated activities*	3	2	3	3
Recreation	< 1	< 1	< 1	< 1
Restoration	29	26	31	23
Road Work	5	4	5	3
Total Employment Contribution	63	46	77	64

*Thin, remove of machine pile, biomass removal, regeneration planting

Table S-17. Annual Labor Income by Activity Type by Alternatives(thousands of dollars).

Proposed Activities	Alt B	Alt C	Alt D	Alt E
Commercial Forest Products				
Logging and Processing	$ 919	$ 477	$ 1,359	$ 1,239
Associated activities*	$ 62	$ 33	$ 63	$ 59
Recreation	$ 14	$ 15	$ 14	$ 14
Restoration	$ 748	$ 675	$ 794	$ 593
Road Work	$ 121	$ 101	$ 121	$ 83
Total Labor Income Contribution	$ 1,865	$ 1,301	$ 2,351	$ 1,989

*Thin, remove of machine pile, biomass removal, regeneration planting

Comparison of Issues by Alternative

Issue #1: Forest Vegetation

Table S-18. Comparison of Alternatives for Issue #1: Forest Vegetation.

Forest Vegetation Issue: ***The intensity of the vegetation treatments will affect how well the desired conditions for vegetation and wildlife are achieved.***					
Indicators	**Alt A**	**Alt B**	**Alt C**	**Alt D**	**Alt E**
Tree Size Class (TSC) • Acres treated to promote or maintain the large tree size class. • Percentage of area (acres) in each tree size class.	Slowest movement toward desired conditions. Leaves least resilient/resistant conditions.	• 15,200 • No immediate post-treatment effects to TSC. Moderate duration of benefits to individual tree growth due to treatment intensity.	• 10,100 • No immediate post-treatment effects to TSC. Least duration of benefits to individual tree growth due to less treatment intensity.	• 16,400 • No immediate post-treatment effects to TSC. Proposes most intensive intermediate treatments which would result in quicker development into large TSC.	• 14,300 • Same as Alt D, except reduced prescribed fire and non-commercial thinning would result in less resilient/resistant landscape conditions than all other action alternatives.
Canopy Cover • Percentage of area (acres) in each canopy cover class (CCC) within the large tree size class.	Moves further from desired conditions. Leaves least resilient/resistant conditions.	**PVG 2:** Moves considerably toward desired conditions. **PVG 5:** Closer in the short term than any of the other alternatives. **PVG 6:** Initially a slight overabundance of low CCC. Over time (i.e. 15-20 years), moves closer to desired low/moderate conditions.	**PVG 2:** Similar to Alt B. **PVG 5:** Less movement toward desired CCCs than all other Alts. **PVG 6:** Very little movement toward desired conditions. **Overall:** Least intensive, retains CCC at relatively high levels.	**PVG 2:** Similar to Alt B. **PVG 5:** Moves closer in the short term than any other alternatives. More abundance in the low CCC. **PVG 6:** Initial overabundance of low CCC. Over time (i.e. 15-25 years), moves closer to desired levels. **Overall:** Most intensive, retains lowest CCC levels of all alternatives.	Effects similar to Alternative D, slightly less acres considered for treatment.
Species Composition • Acres treated to maintain and promote desired species composition.	0	43,200 acres - Proposed treatment intensity is between those in Alternative C (least intensive) and Alternatives D and E (most intensive).	38,300 acres- Proposes least intensive treatments of all alternatives that would have minimal benefits for future species compositions.	44,200 acres- Proposes most intensive treatments that would have greatest benefit on future species composition.	32,500 acres- Proposes most intensive treatments that would have greatest benefit on future species composition.

Forest Vegetation Issue: ***The intensity of the vegetation treatments will affect how well the desired conditions for vegetation and wildlife are achieved.***					
Indicators	**Alt A**	**Alt B**	**Alt C**	**Alt D**	**Alt E**
Spatial Patterns • Percent departure from reference conditions per Potential Vegetation Group.	**PVG 2: 68** (*69*) **PVG 5: 47** (*55)* **PVG 6: 51** (*75*) **Weighted Ave.: 55** (*69*)	**PVG 2: 61** (*40)* **PVG 5: 42** (*32)* **PVG 6: 53** (*57)* **Weighted Ave.: 52** *(46*)	**PVG 2: 61** (*47*) **PVG 5: 41** (*36)* **PVG 6: 52** (56) **Weighted Ave.: 52** (*49*)	**PVG 2: 60** (*40*) **PVG 5: 46** *(32)* **PVG 6: 58** (*37)* **Weighted Ave.: 56** (*37)*	**PVG 2: 61** (*43*) **PVG 5: 46** (*32*) **PVG 6: 56** (*44)* **Weighted Ave.: 55** (*41*)

Issue #2: *Watershed conditions and sediment rates may be altered due to the proposed activities for roads, vegetative treatments, and prescribed fire within the analysis area.*

Issue #3: *The number of roads selected for the Minimum Road System (MRS) and their maintenance level and location could affect sediment rates and long term watershed functionality.*

Issue 4: *Proposed activities may change timing and duration of peak runoff and increase bank instability in sensitive stream channels.*

Table S-19. Watershed Indicators for Direct and Indirect Effects – Comparison by Alternative.

	Watershed Condition Indicator (WCI)	Watershed Indicator for Direct and Indirect Effects	Alt A	Alt B	Alt C	Alt D	Alt E
Boulder Creek	Sediment	Maximum percent over natural sediment (BOISED)	5.3	9.6	7.6	11.6	9.1
		Cumulative percent difference total sediment yield over 15 years (BOISED)	0	20	-6.7	32	18
		Long-term Annual percent over natural sediment yield (BOISED)	5.3	4.3	3.6	4.3	4.4
	Road Density/Location RCAs Floodplain Connectivity	Total miles of system road obliterated	0	29	60	29	29
		Total miles Unauthorized Route treated	0	12	15	12	12
		Total road density (mi/sq. mi)	3.0	1.8	1.0	1.8	1.9
		Miles of system road and Unauthorized Route obliterated within RCAs	0	13.3	17.1	10.6	10.5
	Change in peak flow and/or base flows	ECA and CCR of 6th Field Subwatersheds	11 Low	12 Low	11 Low	12 Low	12 Low
		Number of drainages where there is an increase in ECA where ECA and CCR are high or moved into the high category.	0	0	0	0	0
Lost Creek	**Watershed Condition Indicator (WCI)**	**Watershed Indicator for Direct and Indirect Effects**	**Alt A**	**Alt B**	**Alt C**	**Alt D**	**Alt E**
	Sediment	Maximum percent over natural sediment (BOISED)	12.2	26.6	23.8	30.0	28.3
		Cumulative percent difference total sediment yield over 15 years (BOISED)	0	25	13	30	33
		Long-term Annual percent over natural sediment yield (BOISED)	12.2	7.0	6.3	7.1	9.0
	Road Density/Location RCAs Floodplain Connectivity	Total miles of system road decommissioned	0	20	26	20	12
		Total miles of unauthorized routes treated	0	40	51	40	40
		Total road density (mi/sq. mi)	7.4	5.6	5.2	5.6	5.9

		Miles of road decommissioned within RCAs	0	25.1	27.3	24.9	22.5
	Change in peak flow and/or base flows	ECA and CCR of 6th Field Subwatersheds	27 High	31 High	29 High	33 High	32 High
		Number of drainages with an increase to ECA where ECA and CCR are high or moved into the high category.	0	3	2	3	3
Upper Weiser River	**Watershed Condition Indicator (WCI)**	**Watershed Indicator for Direct and Indirect Effects**	**Alt A**	**Alt B**	**Alt C**	**Alt D**	**Alt E**
	Sediment	Maximum percent over natural sediment (BOISED)	19.2	43.2	33.6	44.4	34.7
		Cumulative percent difference total sediment yield over 15 years (BOISED)	0	39	13	38	27
		Long-term Annual percent over natural sediment yield (BOISED)	19.2	17.2	15.0	17.2	17.6
	Road Density/Location RCAs Floodplain Connectivity	Total miles of system road decommissioned	0	9	19	9	4
		Total miles of unauthorized routes treated	0	18	28	18	18
		Total road density (mi/sq. mi)	4.7	3.5	2.7	3.5	3.7
		Miles of road decommissioned within RCAs	0	17.7	24.0	17.6	12.3
	Change in peak flow and/or base flows	ECA and CCR of 6th Field Subwatersheds	28 High	31 High	27 High	32 High	31 High
		Number of drainages with an increase to ECA where ECA and CCR are high or moved into the high category.	0	6	6	6	6
WFWR	**Watershed Condition Indicator (WCI)**	**Watershed Indicator for Direct and Indirect Effects**	**Alt A**	**Alt B**	**Alt C**	**Alt D**	**Alt E**
	Sediment (Upper and Lower WFWR Combined)	Maximum percent over natural sediment (BOISED)	20.3	44.7	34.9	45.4	41.1
		Cumulative percent difference total sediment yield over 15 years (BOISED)	0	32	13	36	27
		Long-term Annual percent over natural sediment yield (BOISED)	20.3	18.2	17.7	18.2	18.7
Upper WFWR	Road Density/Location RCAs Floodplain Connectivity	Total miles of system road decommissioned	0	9	24	9	6
		Total miles of unauthorized route treated	0	20	23	20	20
		Total road density (mi/sq. mi)	8.6	6.7	5.9	6.6	7.0

		Miles of road decommissioned within RCAs	0	14.9	20.2	14.0	12.9
	Change in peak flow and/or base flows	ECA and CCR of 6th Field Subwatersheds	21 Mod	24 Mod	22 Mod	27 High	25 Mod
		Number of drainages with an increase to ECA where ECA and CCR are high or moved into the high category.	0	1	1	1	1
Lower WFWR	**Watershed Condition Indicator (WCI)**	**Watershed Indicator for Direct and Indirect Effects**	**Alt A**	**Alt B**	**Alt C**	**Alt D**	**Alt E**
	Road Density/Location RCAs Floodplain Connectivity	Total miles of system road decommissioned	0	<1	3.0	<1	0
		Total miles of unauthorized route treated	0	0	0.3	0	0
		Road Density (mi/sq. mi)	1.4	1.3	1.0	1.3	1.4
		Miles of road decommissioned within RCAs	0	0.6	2.2	0.3	0
	Change in peak flow and/or base flows	ECA and CCR of 6th Field Subwatersheds	4 Low	4 Low	4 Low	4 Low	4 Low
		Number of drainages with an increase to ECA where ECA and CCR are high or moved into the high category.	0	0	0	0	0

Issue 5: *Treatments that propose thinning of vegetation in RCAs may negatively affect sediment delivery, stream temperatures and large woody debris (LWD).*

Table S-20. Acres of RCA Vegetation Treatments Proposed in Each Alternative.

Subwatershed	Total RCA Acres (Forest Service ownership)	Proposed Acres of RCA Vegetation Treatment				
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Upper Weiser River	2118	0	416	0	422	417
Lost Creek	4,497	0	667	0	734	662
Upper West Fork Weiser River	2,394	0	579	0	621	496
Lower West Fork Weiser River	1,257	0	152	0	214	77
Total	10,266	0	1,814	0	1,990	1,652

Table S-21. Ares of RCA Vegetation Treatments Proposed Within 1 Site Potential Tree Height (120 feet) of Intermittent Stream Channels.

Subwatershed	Total RCA Acres (Forest Service ownership)	Proposed Acres of RCA Vegetation treatment within 1 site potential tree height				
		Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Upper Weiser River	2118	0	16	0	16	16
Lost Creek	4,497	0	111	0	119	103
Upper West Fork Weiser River	2,394	0	124	0	133	116
Lower West Fork Weiser River	1,257	0	3	0	3	0
Total	10,266	0	254	0	271	235

Issue 6: *Proposed activities may decrease long-term soil productivity and impair soil-hydrologic function.*

Table S-22. Comparison of Alternatives for Soil Productivity Issue.

Indicators	Alt A	Alt B	Alt C	Alt D	Alt E
Does the amount of Detrimental Disturbance (DD) within activity areas meet the Forest Plan requirement?	**Yes** No change from existing conditions from this project.	**Yes** No increase to DD due to design features and mitigation measures.	**Yes** No increase to DD due to design features and mitigation measures.	**Yes** No increase to DD due to design features and mitigation measures.	**Yes** No increase to DD due to design features and mitigation measures.
Does the amount of Total Soil Resource Commitment (TSRC) within the project area meet the Forest Plan requirement?	**Yes** 6.8%	**Yes** 5.9%	**Yes** 5.3 %	**Yes** 6.0%	**Yes** 6.0%

Issue 7: *Restoration treatments, while a benefit to white-headed woodpeckers, may adversely affect source habitat for other wildlife species, such as pileated woodpecker, northern goshawk, elk, and lynx, which are dependent on denser mixed-conifer forests with multi-layer structural characteristics.*

Table S-23. Change in White-headed Woodpecker Habitat by Alternative and Potential Vegetation Group (acres) Short and Long Term Combined.

	No Action	Alternative B		Alternative C		Alternative D		Alternative E	
PVG 1	342	1,595	+366%	1,554	+354%	1,600	+368%	1,496	+337%
PVG 2	304	9,444	+3,007%	8,114	+2,569%	9,557	+3,044%	8,879	+2,821%
PVG 3	---	---		---		---		---	
PVG 5	893	9,334	+945%	7,717	+764%	9,380	+950%	9,190	+929%
PVG 6	196	8,017	+3,990%	3,506	+1,689%	9,798	+4,899%	8,224	+4,096%
Totals	**1,735**	**28,390**	**+1,536%**	**20,891**	**+1,104%**	**30,335**	**+1,648%**	**27,789**	**+1,502%**

Issue 8: *Road densities affect wildlife (i.e., elk) security and can lead to the removal of important habitat components (snags) for cavity dependent wildlife.*

Table S-24. Proposed Changes in Road Miles by Alternative for Upper Weiser River, West Fork Weiser, Middle Little Salmon River, 5th HUCs for the Lost Creek-Boulder Creek Project Area that May Affect Elk Security.

Road Status	Alternative B	Alternative C	Alternative D	Alternative E
System Road Decommissioning *(Currently closed to the public)*	68	132	68	51
Treatment of Unauthorized Routes	90	117	90	90
New Long Term Closure (Convert ML 2 to ML 1) *(Currently closed to the public)*	61	1.1	11	11
Obliteration of routes used as Temporary roads	14.8	6.1	14.8	14.8
Relocated FS System Road (*New Construction*)	1.5	0	1.0	0
Re-routed FS System Road (*Existing Roadbed)*	0.6	4.6	0.6	0.6
Conversion of seasonally open road to seasonal OHV trail	0	12	12	12
Change in Overall Motorized Access (including OHV)	+2.0	-29.8	+2.0	+2.0

Issue 9: *Project activities (logging, log haul, prescribed burning, and temporary road construction) may affect other wildlife species of concern, such as northern Idaho ground squirrel (NIDGS) and Canada lynx.*

Table S-25. Comparison of Alternatives for Wildlife Issue #9.

Indicators	Alt A	Alt B	Alt C	Alt D	Alt E
Quantity (acres) and quality of existing NIDGS habitat and acres treated to improve forage and population expansion.	-	Improve	Improve	Greatest acres improved	Less acres improved than Alt D, however more than Alt's B and C
Quantity and quality of existing Canada lynx habitat.	-	Same	Same	Same	Same

Issue 10: *Proposed activities to the road system (i.e. road closures and decommissioning) may reduce the amount of access to the areas identified in the Forest Plan for active management. Road access is needed for economical active management activities, including timber and biomass harvest, thinning, and fuels treatments.*

Table S-26. Suited Timber Lands within ¼ mile of a System Road (includes closed roads).

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres	49,830	48,888	44,281	48,898	49,054
Change in Acres	0	-942	-5,549	-932	-776
% Change	0.0%	-1.9%	-11.1%	-1.9%	-1.6%

Table S-27. Suited Timber Lands within ¼ mile of Open System Road (includes Administrative use only roads).

	Alt A	Alt B	Alt C	Alt D	Alt E
Acres	45,125	39,525	36,263	43,840	43,480
Change in Acres	0	-5,600	-8,862	-1,285	-1,645
% Change	0.0%	-12.4%	-19.6%	-2.8%	-3.6%

Table S-28. Minimum Road System by Alternative.

Subwatershed	Alt A			Alt B			Alt C			Alt D			Alt E		
	Maintenance Level			Maintenance Level			Maintenance Level			Maintenance Level			Maintenance Level		
	1	2	3/4	1	2	3/4	1	2	3/4	1	2	3/4	1	2	3/4
Boulder Creek	49	23	20	22	20	20	4	11	20	22	22	20	23	22	20
Lost Creek	39	102	43	69	52	43	59	56	43	35	94	43	43	86	43
Upper Weiser	14	42	17	23	24	17	15	22	17	17	35	17	22	30	17
Upper WFWR	31	70	13	35	57	13	34	45	11	26	68	13	30	64	13
Lower WFWR	0	5	2	0	4	2	0	3	0	0	5	2	0	4	2
Totals	133	242	95	149	157	95	112	137	91	100	224	95	118	206	95
Total System Roads (MRS)	470			401			340			419			420		

Issue 11: *Project may change the existing recreational road and trail access in the Lost Creek/Boulder Creek watersheds.*

Table S-29. Comparison of Alternatives for Recreation Issue #11.

Indicators	Alt A	Alt B	Alt C	Alt D	Alt E
Non-motorized trail	18	17	37	17	17
2-wheel motorized (single-track)	18	18	18	18	18
OHV trail (ATV and/or UTV)	0	15[5]	11	15	15
Miles of open road.	265	255	224	255	255

Issue 12: *Project activities may change the existing recreational dispersed camping opportunities in the Lost Creek and Boulder Creek subwatersheds.*

Table S-30. Comparison of Alternatives for Recreation Issue #12.

Indicators	Alt A	Alt B	Alt C	Alt D	Alt E
Change to dispersed recreation sites measured by number of sites provided and recreation facilities provided in the sites.	**0** designated dispersed sites **0** new information kiosks **0** outhouses decommissioned **0** new vault toilets installed	**68** designated dispersed sites **3** new information kiosks **6** outhouses decommissioned **7** new vault toilets installed	**200** designated dispersed sites **3** new information kiosks **6** outhouses decommissioned **7** new vault toilets installed	**68** designated dispersed sites **3** new information kiosks **6** outhouses decommissioned **7** new vault toilets installed	**68** designated dispersed sites **3** new information kiosks **6** outhouses decommissioned **7** new vault toilets installed

[5] The DEIS identified 13 miles of proposed OHV trail and stated that an additional 7 miles would be identified over the remainder of the analysis process for a total of 20 miles. Only an additional 2 miles were identified, therefore Alternatives B, D and E now propose 15 miles of OHV trail.

Issue 13: *Costs associated with restoration activities under the proposed action are anticipated to exceed potential revenue generated over the life of the project. Although the proposed action would improve ecological health and function within the project area, the project may be perceived as economically inefficient from an accounting standpoint.*

Table S-31. Present Value of Lost Creek-Boulder Creek Treatments over 10-year Period, 4 Percent Discount Rate.

	Alt B	Alt C	Alt D	Alt E
Timber Harvest & Required Design Criteria				
PV Costs	$15,327,370	$15,722,799	$16,885,984	$15,215,067
PV Revenue	$2,897,751	$1,502,427	$4,285,714	$3,905,339
Present Net Value	($12,429,619)	($14,220,372)	($12,600,271)	($11,309,728)
All Proposed Project Activities				
PV Costs	$24,827,354	$24,810,044	$26,385,968	$21,442,844
PV Revenue	$2,897,751	$1,502,427	$4,285,714	$3,905,339
Present Net Value	($21,929,603)	($23,307,618)	($22,100,254)	($17,537,504)

IDENTIFICATION OF PREFERRED ALTERNATIVE

The preferred alternative is Alternative B. The Responsible Official‘s selected alternative for implementation could be this alternative, one of the other alternatives considered in detail, or a different combination of the other alternatives considered in detail. The decision will be documented in a record of decision (ROD) accompanying the Final EIS.